

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-24 (Canceled)

25. (New) A yarn, fiber or filament which can be woven without sizing, wherein a grafted copolymer is present over at least a portion of the surface of the yarns, fibers and filaments, the grafted copolymer comprising at least three sequences with different chemical natures, including one or more sequence(s) for anchoring to solids, one or more sequence(s) with a hydrophobic nature and one or more sequence(s) with a hydrophilic nature, composed of:

a) 1 to 80% by weight, optionally 5 to 40% by weight, of one or more sequence(s) for anchoring to solids composed of an aromatic, cycloalkyl or linear or branched hydrocarbon chain having basic nitrogenous groups of the following type: heterocyclic, -NH₂, -NH-, -NHR or -NR₂, -CONH₂, -CONHR, -CONR₂ (where R is a C₁-C₆ alkyl radical, optionally substituted by one or more -OH, -COO-, -CO-, -O- or -SO₃H groups), which can comprise -COO- groups, the content by weight of basic nitrogenous monomers in the anchoring chain being at least 5% and preferably 30%, and

b) at least 10% by weight, optionally 25 to 80% by weight, of one or more sequence(s) with a hydrophobic nature composed of an aromatic,

cycloalkyl or linear or branched hydrocarbon chain which has -COO-, -S-,
-F or -Si(OR')_n(R'')_{2-n}- groups, wherein R' and R'' represent alike or
different C₁-C₁₀ alkyl or aryl radicals and n = 0 to 2, and formed of
monomer units, the solubility parameter of which is less than or equal to
21.5 J^{1/2}/cm^{3/2}, optionally less than 19 J^{1/2}/cm^{3/2},

c) at least 10% by weight, optionally 15 to 70% by weight, of one or more
sequence(s) with a hydrophilic nature composed of a linear or branched
hydrocarbon chain having -O-, -OH, -NCO, -COO-, -COOH, -CONH₂,
-CONHR''' (where R''' is a C₁-C₃ alkyl radical), -NH-, -S- or -SO₃H
groups and formed of monomer units, the solubility parameter of which is
greater than 22 J^{1/2}/cm^{3/2}, optionally greater than 22.5 J^{1/2}/cm^{3/2}.

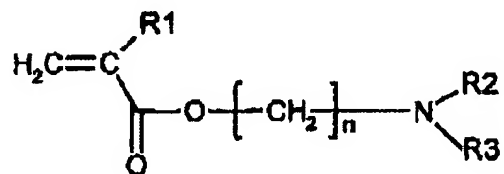
26. (New) The yarn, fiber or filament as claimed in claim 25, wherein the
molecular weight of the anchoring sequence(s), of the sequence(s) with a
hydrophobic nature and of the sequence(s) with a hydrophilic nature of the
grafted copolymer is less than or equal to 10 000.
27. (New) The yarn, fiber or filament as claimed in claim 25, wherein the
anchoring sequence(s) of the grafted copolymer has basic nitrogenous groups
coming from one or more compound(s) chosen from:
- a) vinylpyridines, such as 2-vinylpyridine, 3-vinylpyridine,
4-vinylpyridine or 2-methyl-5-vinylpyridine,
vinylimidazole, 2-methyl-N-vinylimidazole,
vinylcarbazole, N-vinylpyrrolidone, 3-methyl-N-vinylpyrazole, 4-

methyl-5-vinylthiazole, N-vinylcaprolactam or ethylimidazolidone
methacrylate,

(meth)acrylamides, such as (meth)acrylamide,
N-methylacrylamide, N-isopropylacrylamide and N,N-di-
methylacrylamide,

N-methylol(meth)acrylamide, N,N-dimethylol-
(meth)acrylamide, 2-acrylamido-2-methyl-1-propanesulfonic acid,
diacetone acrylamide, methyl 2-acrylamido-2-methoxyacetate or
N,N,N-tris(hydroxymethyl)methacrylamide,

aminoalkyl (meth)acrylates of following formula



wherein R₁ is a hydrogen atom or a C₁-C₄ alkyl radical, R₂ and R₃, which are identical or different, each represent a C₁-C₆ alkyl radical and n = 0 to 6, said nitrogenous groups being, in this first case, introduced by radical copolymerization of one or more abovementioned unsaturated ethylenic monomer(s), and

b) N,N-diethyl-1,4-butanediamine, 1-(2-amino-ethyl)piperazine, 2-(1-pyrrolidyl)ethylamine, 4-amino-2-

methoxypyrimidine, 2-(dimethylamino)ethanol, 1-(2-hydroxyethyl)piperazine, 4-(2-hydroxyethyl)morpholine, 2-mercaptopyrimidine, 2-mercaptobenzimidazole, N,N-dimethyl-1,3-propanediamine, 4-(2-aminoethyl)pyridine, N,N-diallylmelamine, 3-amino-1,2,4-triazole, 1-(3-aminopropyl)imidazole, 4-(2-hydroxyethyl)pyridine, 1-(2-hydroxyethyl)imidazole or 3-mercaptobenzimidazole, 1,2,4-triazole,

said nitrogenous groups being, in this second case, attached to a linear or grafted copolymer by taking advantage of the reactive functional groups introduced along the preformed chain.

28. (New) The yarn, fiber or filament as claimed in claim 25, wherein the sequence(s) with a hydrophobic nature of the grafted copolymer are formed from monomer units selected from the group consisting of:

(meth)acrylic acid esters, such as methyl (meth)acrylate, ethyl (meth)acrylate, propyl (meth)acrylate, butyl (meth)acrylate, hexyl (meth)acrylate, cyclohexyl (meth)acrylate, ethylhexyl (meth)acrylate, octyl (meth)acrylate, nonyl (meth)acrylate, isodecyl (meth)acrylate, lauryl (meth)acrylate, stearyl (meth)acrylate, pentadecyl (meth)acrylate, cetyl (meth)acrylate, behenyl (meth)acrylate or 3-(trimethoxysilyl)propyl (meth)acrylate,

vinyl esters, vinyl sorbate, vinyl hexanoate, vinyl ethylhexanoate, vinyl laurate or vinyl stearate,

styrene and alkylstyrenes,
dienes, optionally hydrogenated after polymerization,
alkylenes,
siloxanes,
fluorinated compounds, and
products of polycondensation, polyesters or polyamides.

29. (New) The yarn, fiber or filament as claimed in claim 25, wherein the sequence(s) with a hydrophilic nature of the grafted copolymer are formed from monomer units selected from the group consisting of:

ethylene oxide,
acrylic acid, methacrylic acid, maleic acid, fumaric acid or itaconic acid,
acrylamide derivatives, such as (meth)acrylamide, N-methylacrylamide or N-isopropylacrylamide,
ethyleneimine,
vinyl alcohol,
vinylpyrrolidone or vinylmethyloxazolidone,
vinylsulfonate,
sodium methallylsulfonate, and
glycerol methacrylate.

30. (New) The yarn, fiber or filament as claimed in claim 25, wherein the grafted copolymer comprises:

a main chain for anchoring to solid particles comprising
dialkylaminoethyl (meth)acrylate, N,N-dimethylacrylamide, 2-
vinylpyridine or 4-vinylpyridine groups, alone or as a mixture,
one or more hydrophilic poly(ethylene oxide) grafts, and
one or more hydrophobic grafts based on alkyl (meth)acrylates or vinyl
esters, alone or copolymerized with styrene or alkylstyrene derivatives,
fluorinated monomers, such as trifluoroethyl methacrylate, or 3-
(trimethoxysilyl)propyl methacrylate.

31. (New) The yarn, fiber or filament as claimed in claim 25, based on thermoplastic polymer.
32. (New) The yarn, fiber or filament as claimed in claim 31, wherein it is based on polyester or on polyamide.
33. (New) The yarn, fiber or filament as claimed in claim 25, wherein the grafted copolymer represents between 0.1 and 5% by weight, optionally between 0.2 and 2% by weight, with respect to the weight of the yarn.
34. (New) The yarn, fiber or filament as claimed in claim 25, wherein the overall count of the yarn is between 200 and 950 dtex.
35. (New) The yarn, fiber or filament as claimed in claim 25, wherein the strand count of the yarn is between 1.5 and 7 dtex.
36. (New) A process for the preparation of the yarn, fiber or filament as claimed in claim 25, comprising the following stages:
 - 1) spinning the constituent material of the yarn,

- 2) optionally drawing the yarn,
 - 3) optionally texturing the yarn, and
 - 4) treating the yarn using a liquid comprising the grafted copolymer defined as claimed in claim 25.
37. (New) The process as claimed in claim 35, wherein the material is a thermoplastic polymer and in stage 1), is a melt spinning of the polymer.
38. (New) The process as claimed in claim 35, wherein stage 4) is carried out after stages 2) and 3).
39. (New) The process as claimed in claim 35, wherein stage 4) is carried out before stages 2) and 3).
40. (New) The process as claimed in claim 35, wherein the liquid is a lubricating composition.
41. (New) The process as claimed in claim 35, wherein the grafted copolymer represents between 5 and 35% by weight, with respect to the weight of the liquid, preferably between 10 and 20%.
42. (New) A fabric, comprising at least in part the yarn, fiber or filament as claimed in claim 25.
43. (New) A process for the preparation of a warp and weft fabric as claimed in claim 19, comprising the weaving carried out on a loom, at least a portion of the warp yarns being the yarn as claimed in one of claims 1 to 12 or the yarn, fiber or filament obtained by the process as claimed in one of claims 13 to 18.

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44. (New) An airbag comprising a fabric produced from yarns, fibers or filaments
as claimed in claim 25.